

**AMENDMENTS TO THE CLAIMS**

With this Amendment, claims 13, 17-20, 22-28, 30, 50, 52, 57, 62, 64, 66-68, 70-72, 74-76, and 78-83 are amended; claims 21, 29, 41 and 63 are canceled; and new claims 84-87 are added. As of this Amendment, the status of the claims (claims 13-20, 22-28, 30, 42-62, and 64-87) is as follows:

1.- 12. (Canceled)

13. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide that hybridizes to ~~[[a]]~~ the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions.

14. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to at least about 20 bases of the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions.

15. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to at least about 50 bases of the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions.

16. (Previously Presented) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule hybridizes to substantially all of the bases of the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions.

17. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is at least about 20 bases and encodes at least a fragment of the porcine leptin polypeptide that hybridizes to the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions.

18. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is at least about 50 bases and encodes at least a fragment of the porcine leptin polypeptide that hybridizes to the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions.

19. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is capable of hybridizing to at least about 20 bases of [[a]] the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

20. (Currently Amended) The isolated single or double-stranded DNA molecule of claim 13 wherein the isolated DNA molecule is capable of hybridizing to at least about 50 bases of [[a]] the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

21. (Canceled)

22. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, the isolated DNA molecule consisting of [[a]] the nucleotide sequence ~~SEQ ID NO: 3~~ SEQ ID NO: 2 or a functional derivative thereof, wherein the isolated DNA molecule or the functional derivative thereof hybridizes to the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 when placed in contact with the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

23. (Currently Amended) The isolated DNA molecule of claim 22 wherein the isolated DNA molecule or the functional derivative thereof hybridizes to substantially all of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 when placed in contact with the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

24. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, the isolated DNA molecule consisting of ~~[[a]] the nucleotide sequence SEQ ID NO: 3~~ SEQ ID NO: 2 or a variant thereof, wherein the isolated DNA molecule or the variant thereof hybridizes to substantially all of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 when placed in contact with the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

25. (Currently Amended) An isolated mRNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, the mRNA molecule encoded by ~~[[a]] the nucleotide sequence SEQ ID NO: 3~~ SEQ ID NO: 2 or a variant of the mRNA molecule, wherein the mRNA molecule or the variant of the mRNA molecule hybridizes to the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

26. (Currently Amended) The isolated mRNA molecule of claim 25 wherein the mRNA molecule or the variant of the mRNA molecule hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

27. (Currently Amended) An isolated mRNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, the mRNA molecule encoded by ~~[[a]] the nucleotide sequence SEQ ID NO: 3~~ SEQ ID NO: 2 or a functional derivative thereof, wherein the functional derivative of the isolated mRNA molecule hybridizes to substantially all of the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

28. (Currently Amended). An isolated mRNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, the mRNA molecule encoded by ~~[[a]] the nucleotide sequence SEQ ID NO: 3~~ SEQ ID NO: 2 or ~~[[an]] a~~ variant thereof, wherein the variant hybridizes to

substantially all of the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

29. (Canceled)

30. (Currently Amended) An isolated mRNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, wherein the isolated mRNA molecule hybridizes to an mRNA molecule encoded by ~~[[a]] the~~ nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

31. - 41. (Canceled)

42. (Previously Presented) An isolated single or double-stranded DNA molecule which encodes for porcine leptin polypeptide, the molecule consisting of the nucleotide sequence of SEQ ID NO:1 or a functional variant thereof, wherein the functional variant is capable of hybridizing to the nucleotide sequence of SEQ ID NO:1 under stringent hybridization conditions.

43. (Previously Presented) The isolated DNA molecule of claim 42 wherein the functional variant encodes for porcine leptin polypeptide.

44. (Previously Presented) The isolated DNA molecule of claim 42 wherein the functional variant is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of SEQ ID NO:1.

45. (Previously Presented) The isolated DNA molecule of claim 42 wherein the functional variant is capable of hybridizing to substantially all of the nucleotide sequence of SEQ ID NO:1.

46. (Previously Presented) The isolated DNA molecule of claim 22 wherein the functional derivative encodes for porcine leptin polypeptide.

47. (Previously Presented) The isolated DNA molecule of claim 24 wherein the variant encodes for porcine leptin polypeptide.

48. (Previously Presented) The isolated mRNA molecule of claim 25 wherein the variant encodes for porcine leptin polypeptide.

49. (Previously Presented) The isolated mRNA molecule of claim 27 wherein the functional derivative encodes for porcine leptin polypeptide.

50. (Currently Amended) An isolated single or double-stranded DNA molecule which encodes a porcine ~~adipocyte polypeptide~~ leptin polypeptide, the molecule consisting of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 or a functional variant thereof, wherein the functional variant is capable of hybridizing to the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

51. (Previously Presented) The isolated DNA molecule of claim 50 wherein the functional variant encodes for porcine leptin polypeptide.

52. (Currently Amended) The isolated DNA molecule of claim 50 wherein the functional variant is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2.

53. (Previously Presented) An isolated single or double-stranded DNA molecule which encodes for porcine leptin polypeptide, the molecule consisting of the nucleotide sequence of SEQ ID

NO:1 or a functional derivative thereof, wherein the functional derivative is capable of hybridizing to the nucleotide sequence of SEQ ID NO:1 under stringent hybridization conditions.

54. (Previously Presented) The isolated DNA molecule of claim 53 wherein the functional derivative encodes for porcine leptin polypeptide.

55. (Previously Presented) The isolated DNA molecule of claim 53 wherein the functional derivative is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of SEQ ID NO:1.

56. (Previously Presented) The isolated DNA molecule of claim 53 wherein the functional derivative is capable of hybridizing to substantially all of the nucleotide sequence of SEQ ID NO:1.

57. (Currently Amended) The isolated DNA molecule of claim 53 wherein the functional derivative is capable of hybridizing to at least about 20 nucleotides of ~~[[a]]~~ the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2.

58. (Previously Presented) An isolated single or double-stranded DNA molecule which encodes for porcine leptin polypeptide, the molecule consisting of the nucleotide sequence of SEQ ID NO:1 or a variant thereof, wherein the variant is capable of hybridizing to the nucleotide sequence of SEQ ID NO:1 under stringent hybridization conditions.

59. (Previously Presented) The isolated DNA molecule of claim 58 wherein the variant encodes for porcine leptin polypeptide.

60. (Previously Presented) The isolated DNA molecule of claim 58 wherein the variant is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of SEQ ID NO:1.

61. (Previously Presented) The isolated DNA molecule of claim 58 wherein the variant is capable of hybridizing to substantially all of the nucleotide sequence of SEQ ID NO:1.

62. (Currently Amended) The isolated DNA molecule of claim 58 wherein the variant is capable of hybridizing to at least about 20 nucleotides of ~~[[a]]~~ the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2.

63. (Canceled)

64. (Currently Amended) The isolated mRNA molecule of claim 25 wherein the variant of the mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2.

65. (Previously Presented) The isolated mRNA molecule of claim 30 wherein the mRNA molecule encodes for porcine leptin polypeptide.

66. (Currently Amended) The isolated mRNA molecule of claim 30 wherein the mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2 under stringent hybridization conditions.

67. (Currently Amended) The isolated mRNA molecule of claim 30 wherein the mRNA molecule is capable of hybridizing to substantially all of the nucleotide sequence of ~~SEQ ID NO:3~~ SEQ ID NO: 2 under stringent hybridization conditions.

68. (Currently Amended) An isolated mRNA molecule which encodes a porcine leptin polypeptide, the mRNA molecule encoded by ~~[[a]] the~~ nucleotide sequence ~~SEQ ID NO: 3~~ SEQ ID NO: 2 or a variant thereof, wherein the mRNA molecule or the variant of the mRNA molecule is capable of hybridizing to the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

69. (Previously Presented) The isolated mRNA molecule of claim 68 wherein the variant of the mRNA molecule encodes for porcine leptin polypeptide.

70. (Currently Amended) The isolated mRNA molecule of claim 68 wherein the mRNA molecule or the variant of the mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

71. (Currently Amended) The isolated mRNA molecule of claim 68 wherein the mRNA molecule or the variant of the mRNA molecule is capable of hybridizing to substantially all of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

72. (Currently Amended) An isolated mRNA molecule which encodes a porcine leptin polypeptide, the mRNA molecule encoded by the nucleotide sequence ~~SEQ ID NO: 3~~ SEQ ID NO: 2 or a functional variant of the mRNA molecule, wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

73. (Previously Presented) The isolated mRNA molecule of claim 72 wherein the functional variant of the mRNA molecule encodes for porcine leptin polypeptide.



74. (Currently Amended) The isolated mRNA molecule of claim 72 wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

75. (Currently Amended) The isolated mRNA molecule of claim 72 wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to substantially all of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

76. (Currently Amended) An isolated mRNA molecule which encodes a porcine leptin polypeptide ~~leptin~~, the mRNA molecule encoded by the nucleotide sequence ~~SEQ ID NO: 3~~ SEQ ID NO: 2 or a functional derivative of the mRNA molecule, wherein the mRNA molecule or the functional derivative of the mRNA molecule is capable of hybridizing to the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

77. (Previously Presented) The isolated mRNA molecule of claim 76 wherein the functional derivative of the mRNA molecule encodes for porcine leptin polypeptide.

78. (Currently Amended) The isolated mRNA molecule of claim 76 wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

79. (Currently Amended) The isolated mRNA molecule of claim 76 wherein the mRNA molecule or the functional variant of the mRNA molecule is capable of hybridizing to

substantially all of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridization conditions.

80. (Currently Amended) The isolated mRNA molecule of claim 76 wherein the mRNA molecule or the functional derivative of the mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the mRNA molecule encoded by the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2.

81. (Currently Amended) An isolated mRNA molecule which encodes a porcine leptin polypeptide, wherein the isolated mRNA molecule is capable of hybridizing to ~~[[a]]~~ the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2 under stringent hybridizing conditions.

82. (Currently Amended) The isolated mRNA molecule of claim 81 wherein the isolated mRNA molecule is capable of hybridizing to at least about 20 nucleotides of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2.

83. (Currently Amended) The isolated mRNA molecule of claim 81 wherein the isolated mRNA molecule is capable of hybridizing to substantially all of the nucleotide sequence of ~~SEQ ID NO: 3~~ SEQ ID NO: 2.

84. (New) The isolated single or double-stranded DNA molecule of claim 50 which encodes the porcine leptin polypeptide, wherein the molecule consists of a functional variant of the nucleotide sequence of SEQ ID NO: 2 and the functional variant is capable of hybridizing to substantially all of the nucleotide sequence of SEQ ID NO: 2 under stringent hybridization conditions.

85. (New) The isolated mRNA molecule of claim 30 which encodes the porcine leptin polypeptide, wherein the isolated mRNA molecule hybridizes to substantially all of the mRNA

molecule encoded by the nucleotide sequence of SEQ ID NO:2 when placed in contact with the mRNA molecule encoded by the nucleotide sequence of SEQ ID NO:2 under stringent hybridizing conditions.

86. (New) An isolated single or double-stranded DNA molecule which encodes a porcine leptin polypeptide that hybridizes to the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions, the stringent hybridization conditions being (1) hybridization at 60°C, (2) hybridization for fifteen hours, (3) hybridization using a hybridization solution with a low salt concentration of 0.99 M sodium ion, (4) hybridization using a hybridization solution with a salmon sperm concentration of 100 mg/ml, (5) washing with a post-hybridization washing solution containing 0.2x SSC and 0.1% SDS, (6) any of these in any combination, or (7) all of these in combination.

87. (New) An isolated single or double-stranded DNA molecule which encodes a porcine leptin polypeptide that hybridizes to the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions, the stringent hybridization conditions being (1) hybridization at 65°C, (2) hybridization overnight, (3) washing with a post-hybridization washing solution containing 0.2x SSC and 0.5% SDS, (4) washing with a post-hybridization washing solution at a temperature of at least 60°C, (5) any of these in any combination, or (6) all of these in combination.